

CLAIMS

1-58. (Cancelled)

59. (New) A laser having an improved iodine injection system, the laser comprising:
a gas generator for producing a first gas;
a laser cavity where lasing occurs, the laser cavity in fluid communication with the gas generator;
a symmetric two-dimensional Minimum Length Nozzle (MLN) between the gas generator and the laser cavity, the MLN having:
a throat located at a first end of the MLN, the throat being in fluid communication with the gas generator and receiving a flow of the first gas from the gas generator;
a curved sonic line defining the transonic boundary of the flow of the first gas within the MLN; and
an exit plane located at a second end of the MLN, the exit plane forming the boundary between the MLN and the laser cavity such that a flow of a second gas is output from the MLN and input into the laser cavity, and the flow of the second gas is generally uniform and generally supersonic; and
at least one injection strut located within the MLN and downstream of the throat, the strut injects iodine into the flow of the first gas.

60. (New) The iodine injection system according to claim 59 wherein the nozzle has a kernel region and the strut is located near the downstream end of the kernel region.

61. (New) The iodine injection system of claim 61 wherein the downstream edge of the kernel region is located between 10% to 50% of the distance from the throat and the exit plane.

62. (New) The iodine injection system of claim 1 wherein the strut is located within 20% to 90% of the distance between the nozzle throat and the exit plane.

63. (New) The iodine injection system according to claim 59 wherein a carrier gas is injected with the iodine.

64. (New) The iodine injection system according to claim 63 wherein the carrier gas is helium.

65. (New) The iodine injection system according to claim 63 wherein the carrier gas is nitrogen.

66. (New) The iodine injection system according to claim 63 wherein there are at least two struts, the second strut being located further downstream in the nozzle than the first.

67. (New) The iodine injection system according to claim 59 wherein there are at least two struts that are staggered between the nozzle throat and the exit plane.

68. (New) The iodine injection system according to claim 59 wherein the strut further comprises a heating element.